LPF series Electric Expansion Valves are designed for use in refrigeration systems. The valve port is designed with PTFE (Teflon™), creating a tight seat equivalent to a solenoid valve thus preventing liquid refrigerant from migrating to the evaporator and compressor.

**FEATURES**

- TIGHT SEATING, AS GOOD AS A SOLENOID VALVE (<1ML/MIN)
- QUICK-CONNECT STATOR FOR EASY INSTALLATION
- IP67 RATED STATOR WORKS SAFELY IN HARSH ENVIRONMENTS
- COMPATIBLE WITH OIL-FREE SYSTEMS
- INLET STRAINER, 100 MESH
- LPFxxD: 870 PSIG [60 BAR(G)] DESIGN FOR R-744 (CO2) APPLICATION

**GENERAL SPECIFICATION**

- Applicable for all common HCFC, HFC, HFO, and HC refrigerants and blends, including:
  - R-134a
  - R-404A
  - R-407A, R-407-C, R-407F
  - R-410A
  - R-448A, R-449A
  - R-450A
  - R-452A
  - R-513A
  - R-507A
  - R-744 (CO2)

- 500 steps (full stroke): 32 ± 20 opening steps
- Fluid temperature range: -40°F to +158°F
- Ambient temperature range: -40°F to +140°F
- Ambient relative humidity range: 0 to 95% RH
- Design Pressure:
  - 600 psig [41.4 bar(g)] max, MOPD: 500 psi [34.5 bar]
  - LPFxxD only: 870 psig [60.0 bar(g)] max, MOPD: 500 psi [34.5 bar]
LPF SERIES | Electric Expansion Valve

ELECTRICAL PARAMETERS

- Rated voltage: 12V DC (± 10%), rectangular wave
- Excitation mode: 1 - 2 phase excitation, unipolar actuation
- Excitation rate: 30 - 90pps
- Full stroke time: 6s @ 90pps
- Coil current: 260 mA/phase (20°C)
- Coil resistance: 46 ± 3.7 Ω/phase (20°C)
- Insulation class of coil: E
- Protection class: IP 67
- Compatible with Sanhua SEC series controller

MODEL DESIGNATION

LPF 10 D - XXX

EEV Model Type
Port diameter in mm:
CO2 Certifier:  
D= Certified for CO2 use, otherwise “D” is omitted

Product Serial Number
Designates different fitting sizes, per table
# REFERERGANT CAPACITY TABLES

## Air Conditioning

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Refrigerant</th>
<th>R-407C</th>
<th>R-410A</th>
<th>R-404A/R-407F</th>
<th>R-448A/R-449A</th>
<th>R-452A</th>
<th>R-134a</th>
<th>R-450A</th>
<th>R-513A</th>
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<tbody>
<tr>
<td></td>
<td>P=100 psi</td>
<td>P=160 psi</td>
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<td></td>
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<td>tons</td>
<td>BTU/hr</td>
<td>tons</td>
<td>BTU/hr</td>
<td>tons</td>
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<td>LPF08</td>
<td>0.51</td>
<td>6,120</td>
<td>0.64</td>
<td>7,680</td>
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<td>LPF10</td>
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<td>LPF14</td>
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<td>25,440</td>
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<td>LPF18</td>
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<td>30,480</td>
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<td>38,160</td>
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<tr>
<td>LPF24</td>
<td>4.24</td>
<td>50,880</td>
<td>5.29</td>
<td>63,480</td>
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Conditions: 45°F evap temperature, 100°F liquid temperature

## CO2

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Refrigerant</th>
<th>R-744 (CO2)</th>
<th>MT</th>
<th>LT</th>
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<td>LPF08D</td>
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<td>14,760</td>
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<td>LPF10D</td>
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<td>24,600</td>
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<td>LPF14D</td>
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<td>LPF18D</td>
<td>6.14</td>
<td>73,680</td>
<td>9.57</td>
<td>114,840</td>
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<tr>
<td>LPF24D</td>
<td>10.20</td>
<td>122,400</td>
<td>15.90</td>
<td>190,800</td>
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</tbody>
</table>

MT = Medium Temperature: 25°F evap temperature, 45°F liquid temperature \( \Delta P=150 \text{ psi} \)

LT = Low Temperature: -10°F evap temperature, 45°F liquid temperature \( \Delta P=350 \text{ psi} \)

Note:
1. LPF stator is sold separately
2. Nominal capacity is at 480 fully open pulses of linear flow curve

## Medium Temperature Refrigeration

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
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<td>BTU/hr</td>
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<td>12,960</td>
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<td>10,080</td>
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<tr>
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<td>LPF18</td>
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<td>39,000</td>
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Conditions: 25°F evap temperature, 100°F liquid temperature

## Low Temperature Refrigeration

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Refrigerant</th>
<th>R-404A/R-507</th>
<th>R-290</th>
<th>R-407A/R-407F</th>
<th>R-448A/R-449A</th>
<th>R-452A</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>tons</td>
<td>BTU/hr</td>
<td>tons</td>
<td>BTU/hr</td>
<td>tons</td>
<td>BTU/hr</td>
</tr>
<tr>
<td>LPF08</td>
<td>0.37</td>
<td>4,440</td>
<td>0.65</td>
<td>7,800</td>
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<td>6,120</td>
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<td>LPF10</td>
<td>0.61</td>
<td>7,320</td>
<td>1.09</td>
<td>13,080</td>
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<td>LPF14</td>
<td>1.23</td>
<td>14,760</td>
<td>2.18</td>
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<td>22,080</td>
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</tbody>
</table>

Conditions: -10°F evap temperature, 100°F liquid temperature

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LPF SERIES | Electric Expansion Valve

TECHNICAL DATA

<table>
<thead>
<tr>
<th>Valve Model</th>
<th>Øe inlet</th>
<th>Ød outlet</th>
<th>Weights (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LPF08-001</td>
<td>3/8</td>
<td>1/2</td>
<td></td>
</tr>
<tr>
<td>LPF08-002</td>
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</tr>
<tr>
<td>LPF10-002/ LPF10D-002</td>
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<td>1/2</td>
<td>1.8 (51.2)</td>
</tr>
<tr>
<td>LPF10-003/ LPF10D-003</td>
<td>1/4</td>
<td>3/8</td>
<td></td>
</tr>
<tr>
<td>LPF14-002/ LPF14D-002</td>
<td>3/8</td>
<td>1/2</td>
<td></td>
</tr>
<tr>
<td>LPF14-003/ LPF14D-003</td>
<td>1/4</td>
<td>3/8</td>
<td></td>
</tr>
<tr>
<td>LPF18-002/ LPF18D-002</td>
<td>3/8</td>
<td>1/2</td>
<td></td>
</tr>
<tr>
<td>LPF24-002/ LPF24D-002</td>
<td>3/8</td>
<td>1/2</td>
<td></td>
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<table>
<thead>
<tr>
<th>Stator Model</th>
<th>D=Cable length ft (m)</th>
<th>E=Insulation length ft (m)</th>
<th>Number of wires</th>
<th>Weights Oz (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PQ-M24012-000007</td>
<td>5 (1.5)</td>
<td>4.6 (1.4)</td>
<td>5</td>
<td>4.95 (140.2)</td>
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<tr>
<td>PQ-M24012-000008</td>
<td>10 (3.0)</td>
<td>8.9 (2.7)</td>
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<td>PQ-M24012-000009</td>
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<td>17.8 (5.4)</td>
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<td>PQ-M24012-000010</td>
<td>30 (9.0)</td>
<td>26.7 (8.1)</td>
<td>5</td>
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